In The Specification

Please replace the paragraphs beginning on page 6, line 27 through page 7, line 17 as follows:

A determination of scan information (e.g., a scan database in the form of a scan table) that describes an optimum scan strategy may be performed by system 108A (e.g., system 108A may form part of detection system 101) or by a system 108B external to detection system 101 (e.g., a computer system configured to determine scan table information for detection system 101). Any system, either part of or separate from detection system [[201]] 101 may be used to determine a scan strategy. According to one aspect of the present invention, a software program that executes on a PC may accept a number of parameters describing emitters of interest, system configuration information and in, one embodiment, actual emitter data to determine an optimum scan table for the detection system 101. The software program may be capable of producing scan information in a format that can be used to execute the determined scan strategy by detection system 101. For a detection system 101 implemented in a vehicle 107 (e.g. an aircraft), the software program may be operated prior to a mission to determine an optimum scan table, and the scan table may be input to the detection system 101 for use during a mission.

Figure 2 shows a system 201 for determining a scan strategy according to one embodiment of the invention. System 201 is similar in function to systems 108A-108B described above and is configured to determine a scan strategy for one or more detection systems (e.g., detection system 215). System 215, similar in function to systems described above, is configured to receive one or more signals 208 to be detected and identified. These signals may be received by one or more ~~receivers/sensors~~ receiver/processor 206, outputs of which are processed by a processor 204. Processor 204 analyses and identifies these signals based on the scan strategy and other information provided by system 201 and information identified in the received signals.

Please replace the paragraph beginning on page 30, line 3 as follows:

The dwell is assigned a single value of Trigger Count and a single value of Grouping Interval. The selected value lies within the range of at least set of the emitter to satisfy the emitter. In addition, the Trigger Count and Group Interval are "coupled", meaning that both parameters of the set bracket the selected values to "count". A conflict exists if the selected values do not satisfy any set of at least one emitter. The selected values are the minimum values that satisfy all emitters, or the preponderance of satisfied emitters. An example is illustrated in Figure [[2A]] <u>9</u>, where "X" indicates selected dwell values. In the example shown, three sets of range control parameters are shown, and dwells are selected that satisfy all emitters.

Please replace the paragraph beginning on page 36, line 7 as follows:

In a detection system (e.g., system [[201]] <u>101</u>) that determines an optimum scan strategy, it may be beneficial to take into account operation of a jammer, and determine an alternate scan strategy accordingly. It is realized that when a jammer is on, the jammer signal affects the frequency band in which it transmits, and adjacent bands in which harmonics are produced by the jammer signal. Also, it is realized that for a jammer to be effective, it should be operating as continuously as possible, so that it can reduce the possibility that the vehicle in which the detection system exists cannot be detected by a threat that produces an emitter signal to be "jammed." Thus, it is a goal to minimize the amount of time the jammer is off. However, this goal competes with the need for a receiver to operate in the frequency bands affected by the jammer signal, such that the detection system can detect the threat. Therefore, a detection system is provided to balance the needs of an active jammer to operate effectively, yet allow a receiver to operate within a band affected by the jammer signal. According to one embodiment, scan strategies are determined for both jamming and non-jam situations.

Please replace the paragraph beginning on page 40, line 21 as follows:

In Figure 12, a signal from Emitter 3101 is shown having a PRI of 20 ms. Solution 1 shows a dwell in the frequency range of Emitter 3101 having a dwell duration of 10 ms and a revisit time of [[30]] <u>40</u> ms. The dwell is initially executed at 5 ms. However, because the duration is only 10 ms, dwell execution is completed before the next pulse in the signal of Emitter 3101. Thus, execution of the dwell falls in between Pulse 1 and Pulse 2 of the signal of Emitter 3101. The revisit time of the dwell is 40 ms, thus the dwell is "revisited" and again executed at 45 ms. This time the dwell falls in between Pulse 3 and Pulse 4 of the signal of Emitter 3101. As can be seen, unless the timing of execution of the dwell happens, by chance, to line up with the timing of the pulses of the signal from the emitter, then it is possible for a dwell, which is otherwise capable of detecting the emitter signal, to fall in between pulses of the signal and consequently fail to detect the emitter signal. This problem can be solved by increasing the dwell duration. For example, if the minimum dwell duration is as long or longer than the PRI of the emitter signal, then the dwell does not fall in between pulses of the signal.

Please replace the paragraph beginning on page 41, line 3 as follows:

Solution 2 of Figure 12 shows an alternate solution where the dwell covering the frequency range of Emitter 3101 has a duration of 20 ms (i.e., the PRI of Emitter 3101) and a revisit time of [[30]] <u>40</u> ms. The dwell is first executed at 5 ms, however unlike solution 1, execution of the dwell is not complete until 25 ms, thus Pulse 2, which occurs at 20 ms, is detected, as indicated by the asterisk in Solution 2. After 50 ms, the dwell is "revisited" and again executed at 55 ms. This time, Pulse 4 is detected by the dwell, as indicted by the asterisk at 60 ms. As can be seen in the example of Figure 12, by increasing the minimum dwell duration to the maximum possible PRI of the emitter, execution of the dwell does not slip in between pulse of the emitter signal. In Solution 2 of Figure 12, the dwell duration remains the same whether or not a pulse is detected. As will be discussed later in greater detail, it should be appreciated that dwell duration may be extended if a pulse is detected during that dwell (e.g., to verify the presence and other characteristics of the emitter signal). It should further be

understood that there are, however, certain situations in which the duration of a dwell may be lower than the maximum possible of PRI of the emitter which the dwell covers. Such a situation may occur, for example, when the revisit time of the dwell is short enough that the dwell is adequately over-sampled, such that desired probability of detection is not sacrificed. Such a situation will be discussed in detail below.

Please replace the paragraph beginning on page 48, line 12 as follows:

In the example of Figure 14A, as mentioned above, the first dwell or set of dwells was created starting with the lowest RF Min value in Information Matrix 4000 of Figure 13. However, if the lowest RF Min value in the information Matrix is used to construct the initial dwell, other possible scan strategies, which may or may not yield a lower cost, may not be considered. For example, Figure 17 shows two emitters, E1 and E2. Emitter E1 has an RF Min value of 1100 MHz and an RF Max value of 1200 MHz. Emitter E2 has an RF Min value of 1150 MHz and an RF Max value of 1250 MHz. Suppose the initial dwell is constructed using the lowest value of RF Min, when constructing a scan strategy for Emitters E1 and E2. Scan strategy 7001 is one possible scan strategy that may result from using the lowest value of RF Min to construct the initial dwell. In this example, Dwell 1, which uses detecting method M1, covers the 1100-1200 MHz range. The remaining portion of the frequency spectrum in which emitter E2 may operate is covered by Dwell 2 and Dwell 3 which uses a greater sensitivity detecting method, M2. Scan strategy [[7002]] <u>7003</u>, which might yield a lower cost than scan strategy 7001, depending on dwell parameters, would not be considered if the lowest value RF Min (1100 MHz) was initially used. When initially using the lowest value RF Min, even if it had been decided to use the greater sensitivity method, M2, at the bottom of the frequency spectrum, four M2 dwells would have been constructed. Then, the remaining portion of the frequency spectrum used by emitter E2 would have been covered by additional dwells (e.g., one M1 dwell or two M2 dwells).

Please replace the paragraph beginning on page 61, line 28 as follows:

Once these rows are removed, the process continues to act 9010, where each row in the Data Array is compared to the first row in the Data Array to determine if that row's MDT may be excluded when determining DD_{MAX} for the dwell. This may be done, for example, as described above using the equation of Table 9. That is, if the revisit time of the first row is less than or equal to the product of the revisit time of the row being compared and the ratio of the dwell duration of the first row to the dwell duration of the row being compared, then the row being compared passes the test and it's dwell duration may be excluded when determining DD_{MAX}. In the example of Data Array 9044 in Figure 24C, row 4 9051 and row 5 9052 both pass this test. This indicates that a dwell may be created having a DD_{MAX} of the first row and an RVT_{MIN} of the first row, which covers the emitters associated with the first row, row 4 9051, and row 5 9052. The process of Figure 22 then continues to act 9012, where the first row and any rows that were excluded in act 9010 (e.g., any rows passing the test of the equation of Table 9) may be removed from the Data Array. If no rows passed the test of the equation of Table 9, only the first row of the Data Array is removed. Additionally, a row is created in a Solution Array that indicates the parameters of a dwell which would cover the emitters associated with the rows removed from the Data Array in act 9012. The parameters of this dwell would typically be the DD_{MAX} and the RVT_{MIN} of the rows removed. However, because it was determined at act 9010 that the dwell durations of the rows passing the test of the equation of Table 9 could be excluded when determining DD_{MAX}, DD_{MAX} is set to the dwell duration of the first row. The EDT of the row added to the solution matrix may be set to the longest EDT of all the rows removed from the Data Array. Figure 24D shows Data Array 9044 and Solution Array [[9066]] <u>9046</u> after acts 9010 and 9012 have been performed. As can be seen, the first row of Data Array 9044, as well as rows 9051 and 9052 have been removed from the Data Array. Additionally, a row has been created in Solution Array 9046 which includes the parameters of dwell that would cover the rows removed from Data Array 9044.

Please replace the paragraph beginning on page 74, line 14 as follows:

As mentioned above, once the last element in the IF array has been examined, as described above, the process continues to act 5112. At act 5112, the process continues to act 5113 of Figure 29. At act [[5113]] <u>5122</u> of Figure 29, the total size of the scan strategy is determined. The total size of the scan strategy may be expressed as the amount of receiver system memory needed to store and support the scan strategy. The process then continues to act 5114 where it is determined if the total size of the scan strategy is within the receiver system's capacity. If the scan strategy is within the capacity of the receiver system then the process ends at act 5121.